Remarks/Arguments

Applicants have received and carefully reviewed the Office Action of the Examiner mailed March 8, 2004. Claim 1 has been amended and new claim 15 has been added. Support for the amendment and new claims can be found in the specification and claims as originally filed. No new matter has been added. Claims 1-15 are pending. Reconsideration and reexamination are respectfully requested.

Rejection under 35 U.S.C. § 102(b)

Claims 13 and 14 are rejected as being clearly anticipated by Parker et al. (US 4,931,948). Applicants traverse the rejection.

The Examiner did not refer to any specific part of the Parker et al. patent as teaching the elements of the claims. Applicants are assuming that FIG. 2 and/or FIG. 3 are being relied on, as there is no discussion in the text of Parker et al. regarding the connection or interaction between the damper blade, sensor and controller. Applicants request clarification if this assumption is incorrect. Parker et al. describes FIG. 2 as a pictorial diagram and FIG. 3 as a simplified schematic diagram. See column 10, lines 40-42. Applicants have carefully reviewed the Parker et al. patent and the only discussion of the interaction between the damper, sensor and controller appears to be that the "travel limit sensor 22 is a digital Hall effect device that provides an output when the damper blade 19*b* is at its maximum travel limit and another output when the blade is at any other position." See column 12, line 66 through column 13, line 1. As can be seen, Parker et al. only appears to teach that the sensor indicates when the damper blade is at a maximum limit, but does not disclose or contemplate setting or resetting a home position. Thus, Parker et al. does not teach each and every element of claims 13 and 14. Withdrawal of the rejection is respectfully requested.

Rejection under 35 U.S.C. § 103

Claims 1-12 are rejected as being unpatentable over Parker et al. in view of Steutermann (US 4,914,566). The Examiner asserts that Parker et al. teach every element

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of the claims except for a magnet positioned on the arm of the valve shaft. Steutermann is cited for teaching that it is known to provide a shaft position detector and control device with a magnet positioned on the arm of the valve shaft. The Examiner asserts it would have been obvious to provide the HVAC system of Parker et al. with a magnet positioned on the arm of the valve shaft in order to achieve a precision valve position. Applicants respectfully disagree.

Independent claim 1, as amended, recites a damper device in which a damper vane moves from a home position in which a sensor senses the vane to a second position in which the vane is not sensed by any sensor in the device, and back to the home position, with the home position being reset when the sensor senses the vane has reached the home position. Parker et al. teach a system in which a "travel limit sensor 22... provides an output when the damper blade 19*b* is at its maximum travel limit and another output when the blade is at any other position." See column 12, line 66 through column 13, line 1. Parker et al. also disclose that the damper can be set at from 0% open to 100% open in a "ventilation" mode. See column 16, lines 2-12. Parker et al. fail to disclose, contemplate, or suggest detecting a home position of the damper vane or of resetting the home position when the vane reaches the home position.

Steutermann discloses a device including a plurality of sensors 71-78, such as Hall Effect sensors, that detect a magnet 70 on the shaft 30 of a valve 33. See column 6, lines 18-25. Steutermann discloses that "first one then two of the sensors 71-78" are actuated to indicate the segment of the arc of rotation in which the shaft is located. See column 8, lines 25-30. As illustrated in FIG. 5, the location of the magnet and thus a damper carrying it is always known based on the series of sensors. See FIG. 5 and column 10, lines 59-66. Thus, the magnet of Steutermann is detected by at least one sensor no matter where the shaft and damper are located. Steutermann fails to teach setting and resetting a home position, as is recited by the instant claims.

Applicant submits that there is no motivation to combine the teachings of Parker et al. and Steutermann. However, even if one were to combine the teachings of Parker et al. and Steutermann, Applicants submit that one would not achieve the instantly claimed invention. As stated above, neither Parker et al. nor Steutermann teach, contemplate or

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suggest determining a home position based on sensing the damper vane and resetting the home position when the damper vane reaches that home position. Thus, neither Parker et al. nor Steutermann, alone or in combination, teach all of the elements of independent claim 1 or the claims dependent thereon. Withdrawal of the rejection is respectfully requested.

Independent claim 7 recites a damper device including a circuit board coupled to a frame and positioned to at least partially overlap an arm including a magnet. Claim 7 also recites the circuit board including a Hall Effect sensor positioned to sense when the arm with the magnet passes in close proximity thereto. Parker et al. fail to teach these features. Steutermann discloses that "position sensor 33 is located on the shaft 30 of valve 33 and includes, for example, a magnet 70 (FIGS. 4A-4C) which rotates with the valve shaft to actuate sensors 71-78 for example Hall Effect sensors." See column 6, lines 17-21. Steutermann does not, however, disclose a circuit board coupled to the frame and positioned to at least partially overlap an arm with a magnet, as is recited in claim 7. Thus, neither Parker et al. nor Steutermann, alone or in combination, teach each and every feature of claim 7. Withdrawal of the rejection is respectfully requested.

Independent claims 8 and 11 recite a positioning system and method, respectively, including a sensor configured to sense when a position indicator reaches a home position and generate an index signal. The system of claim 8 also includes a microcontroller coupled to the sensor that resets the home position of the damper vane upon receipt of the index signal. As stated above, Parker et al. do not teach or suggest setting or resetting a home position of a damper vane based on receipt of an index signal. Parker et al. appear to teach only providing a first signal when the damper blade is at a maximum limit and a second signal when the blade is in another position. However, Parker et al. do not teach or contemplate or suggest setting a home position based on detecting a sensor on the damper vane (signal), and resetting the home position of the vane upon receipt of the signal. Withdrawal of the rejection is respectfully requested.

Regarding dependent claim 12, neither Parker et al. nor Steutermann teach or suggest measuring the start and end of an index signal, selecting a midpoint between the two signals as a home position, and returning the vane to the home position. Withdrawal

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of the rejection is respectfully requested.

Reconsideration and reexamination are respectfully requested. It is submitted that, in light of the above remarks, all pending claims 1-15 are now in condition for allowance. If a telephone interview would be of assistance, please contact the undersigned attorney at 612-359-9348.

Respectfully Submitted,
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By their attorney:

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